Maslov, A.V.

MASLOV, A.V.

Epidemiological and parasitological problems at the 15th Session of the Khabarovsk Medical Institute. Med.parazit. i parazit.bol. 26 no.4:508-509 Jl-Ag '57. (MIRA 10:11)
(EPIDEMIOLOGY) (PARASITOLOGY)

MASLOV, A.V.; SHAPIRO, S.Ye.

Problems in epidemiology and parasitology at the 15th session of the Khabarovsk Medical Institute. Zhur.mikrobiol.epid. i immun.28 no.12:143-144 D '57. (MIRA 11:4)
(COMMUNICABLE DISEASES)

MASLOV, A.V.

Insecticide dust in the control of blood-sucking Diptera and ticks in the Khabarovsk Region. Med. paras. i paraz. bol. 27 no.2:221-222 Mr-Ap '58 (MIRA 11:5)

1. Iz kafedry biologii i parazitologii Khabarovskogo gosudarstvennogo meditsinskogo instituta.

(INSECTIDES,
smoke in control of mosquitoes & ticks (Rus))
(MOSQUITOES,
control with insecticide smoke (Rus))
(TICKS,
control with insecticide smoke (Rus))

MASLOV, A.V.; SHAPIRO, S.Ye.

Conference devoted to a 20-year study of tick-borne encephalitis in the Far East. Med.paraz. i paraz.bol. 27 no.5:624-625 S-O '58. (MIRA 12:1)

(ENCEPHALITIS--CONGRESSES)

MASLOV, A. V. and MOISEYENKO, N. M.

"The Ecology and Biology of Ixodic Ticks In Connection with the Epidemiology and Prophylaxis of Certain Natural-Focus Disease in the Far East."

Tenth Conference on Parasitological Problems and Diseases with Natural Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of Sciences, USSR, Moscow-Leningrad, 1959.

Khabarovsk Medical Institute

MASLOV, A. V.

"Testing the Effectiveness of Tick-Repellents as Parophylactic Measures Against Transmissible Diseases."

Tenth Conference on Parasitological Problems and Diseases with Natural Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of Sciences, USSR, Moscow-Leningrad, 1959.

Khabarovsk Medical Institute

DERBENEVA-UKHOVA, V.P.; BUSLAYEV, M.A.; KALMYKOV, Ye.S.; KON', Ya.S.; MARUASHVILI, G.M.; MASLOV, A.V.; NETSKIY, G.I.; PIRUMOV, Kh.N.; POKROVSKIY, S.N.; SELIVANOV, K.B.

Problems of the sanitary-epidemiological service in the control of parasitic diseases in various zones of the U.S.S.R. Med. paraz. i paraz.bol. 28 no.3:287-294 My-Je '59. (MIRA 12:9)
(PARASITIC DISEASES, prev. & control, in Russia (Rus))

MASLOV, A.V.

Seventeenth session of the Khabarovsk Medical Institute, March 9-12, 1959. Med.paraz. i paraz.bol. 28 no.4:509 Jl-Ag '59. (MIRA 12:12)
(PARASITOLOGY)

MASLOV, A.V.

Conference on the epidemiology, clinical aspects, treatment, and prevention of intestinal infections and protozoal and helminth invasions. Med.paraz. i paraz.bol. 37 no.5:636-637 S-O '59.
(MIRA 13:4)

(PARASITOLOGY--CONGRESSES)

MASLOV, A.V.

Problems in the ecology and the epidemilogical significance of bloodsucking mosquitoes. Report No.1: Sanguisuction in mosquitoes of the Culiseta group in the Far East. Trudy Khab.med. inst. no.20:123-128 '60. (MIRA 15:10)

1. Iz kafedry biologii i parazitologii (zav. dotsent A.V.Maslov) Khabarovskogo meditsinskogo instituta.
(SOVIET FAR EAST--MOSQUITOES)

MASLOV, A.V.

Method for laboratory testing of the effectiveness of acaro-repellents. Med.paraz.i paraz.bol. no.3:312-315 '61.
(MIRA 14:9)

1. Iz kafedry biologii i parazitologii Khabarovskogo meditsinskogo instituta.

(INSECT BAITS AND REPELLENTS)

ALMAZOYEVA, V. V.; BATAYEV, P. S.; STAVROVSKAYA, V. I.; AKSEYENKO, G. R.; BEZZUBOVA, V. P.; VOROB'YEVA, Z. G.; GLADKIKH, V. F.; ZHUKOVA, L. I.; ZUYEVA, N. K.; KOROGODINA, Yu. V.; KLIMOVA, L. P.; KRYLOV, A. S.; MASLOV, A. V.; PEYKRE, A. E.; SADOVSKAYA, G. Yu.; SPERANSKAYA, V. N.; SOLOVEY, V. Ya.; TURCHINS, M. Ye.; SHAMRAY, A. F.; SHIPITSINA, N. K.; SHINKEVICH, M. A.

Field trials of new repellents. Med. paraz. i paraz. bol. no.4: 457-464 '61. (MIRA 14:12)

1. Iz entomologicheskogo otdela i otdela sinteticheskikh preparotov Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Ye. I. Martsinovskogo Ministerstva zdravookhraneniya SSSR (dir. - instituta - prof. P. G. Sergiyev, zav. otdelami - prof. V. N. Beklemishev i prof. V. I. Stavrovskaya)

(INSECT BAITS AND REPELLENTS)

MASLOV, A.V.

Data on developmental ecology of blood-sucking mosquitoes (Diptera, Culicidae). Report No.1: Time of development of mosquitoes Theobaldia with relation to temperature. Med.parazit. i paraz.bol. 30 no.1:37-43 Ja '61. (MIRA 14:3)

1. Iz kafedry biologii i parazitologii Khabarovskogo meditsinskogo instituta.

(MOSQUITOES)

MASLOV, A.V.

Materials on the developmental ecology of bloodsucking mosquitoes. Report No.3: Survival rate of mosquitoes of the Culiseta group in the course of their development. Zool. zhur. 40 no.4:616-619 Ap '61. (MIRA 14:3)

1. Department of Biology and Parasitology, Khabarovsk Medical Institute.
(Mosquitoes) (Insects—Development)

MASLOV, A.V.

Materials on the development ecology of bloodsucking mosquitoes. Report No. 6: Feeding conditions and mouth parts in larvae of mosquitoes of the Culiseta group. Zool. zhur. 40 no.6:865-872 Je '61. (MIRA 14:6)

1. Chair of Biology and Parasitology, Medical Institute of Khabarovsk.
(Mosquitoes--Larvae)

MASLOV, A.V.

Ecology of the development of bloodsucking mosquitoes; sex ratio in mosquitoes of the group Culiseta at the time of wing development. Dokl. AN SSSR 136 no.6:1465-1467 F '61. (MIRA 14:3)

1. Predstavleno akademikom Ye. N. Pavlovskim.
(Mosquitoes)
(Insects--Development)
(Sex)

MASLOV, A. V.

Data on the ecology of bloodsucking mosquitoes. Report No. 2: Duration of the development of mosquitoes of the Culiseta group depending on the regime and some other conditions. Med. paraz. i paraz. bol. no.2:201-206 '62. (MIRA 15:7)

1. Iz kafedry biologii i parazitologii Khabarovskogo meditsinskogo instituta.

(MOSQUITOES) (LIGHT—PHYSIOLOGICAL EFFECT)

MASLOV, A.V.

Materials on the developmental ecology of bloodsucking mosquitoes. Report No. 7: Anal gills of mosquito larvae of the Culiseta group (Diptera, Culicidae). Zool. zhur. 41 no.9:1425-1428 S '62. (MIRA 15:11)

1. Department of Biology and Parasitology, Medical High School of Khabarovsk.
(Mosquitoes--Larvae) (Respiratory organs--Insects)

MASLOV, A.V.

Development of aquatic phases and the formation of the prediapause state in female mosquitoes of the genus Culiseta. Prim. mat. metod. v biol., no.2:132-139 '63. (MIRA 16:11)

MASLOV, A.V.

Taxonomy of bloodsucking mosquitoes of the group Culiseta (Diptera, Culicidae). Ent. oboz. 43 no.1:193-217 '64
(MIRA 17:6)

1. Kafedra biologii i parazitologii Khabarovskogo meditsinskogo instituta, Khabarovsk.

MASLOV, A.V.

Living conditions and normal behavior of Culiseta bergrothi Edw. mosquito larvae (Diptera, Culicidae). Zool. zhur. 43 no.6:859-871 '64.
(MIRA 17:12)

1. Department of Biology and Parasitology, Medical Institut of Khabarovsk.

MASLOV, B.

We produce fibers of the best quality. Sov.profsoiuzy 6 no.13: 56-57 O '58. (MIRA 11:11)

1. Predsedatel' zavkoma Klinskogo kombinata iskusstvennogo volokna. (Klin--Textile fibers, Synthetic)

MASLOV, B.P., inzhener.

Turner V.S. Pavlev's boring bar. Izobr. v SSSR. 1 no.4:20-21 O '56. (MLRA 10:3)
(Cutting tools)

LISENKOV, A.P.; MASLOV, B.S., agronom

Short-time fallowing. Zemledelie 8 no.10:85-89 O '60.
(MIRA 13:10)

1. Zamestitel' nachal'nika Glavnoy inspektsii po zemledeliyu Ministerstva sel'skogo khozyaystva SSSR. (for Lisenkov).
(Fallowing)

MASLOV, B. S.

Freezing and thawing of peat soils in Meshchera Lowland. Pochvovedenie no.11:93-99 N '60. (MIRA 13:11)

1. Meshcherskaya zonal'naya optyno-meliorativnaya stantsiya.
(Meshchera Lowland—Peat soils)

MASLOV, B.S., inzh.

Water balance calculations for drainage purposes. Gidr. i mel. 12 no.4:20-24 Ap '60. (MIRA 13:9)

1. Meshcherskaya zonal'naya opytno-meliorativnaya stantsiya. (Drainage)

MASLOV, B. S., Cand. Tech. Sci. (diss) "Water System of Drained Swamps under Conditions of Meshcherskiy Lowland," Moscow, 1961, 18 pp. (Moscow Agri. Acad.) 200 copies (KL Supp 12-61, 270).

MASLOV, B.S.

Water balance of peat soils of the Meshchera Lowland in summer[with summary in English]. Pochvovedenie no.3:48-59 Mr '61.
(MIRA 14:3)

1. Meshcherskaya zonal'naya opytno-meliorativnaya stantsiya.
(Meshchera--Peat soils) (Soil moisture)

MASLOV, B.S.

"The Water Flow of Drained Swamps in the Conditions of the Meshchersk Lowland";

dissertation for the degree of Candidate of Technical Sciences (awarded by the Timiryazev Agricultural Academy, 1962)

(Izvestiya Timiryazevskoy Sel'skokhozyaystvennoy Akademii, Moscow, No. 2, 1963, pp 232-236)

MASLOV, B.S.

Spring surface runoff from drained swamps. Meteor. i gidrol. no.1: 38-40 Ja '62. (MIRA 15:1)

(Meshchera--Runoff)

MASLOV, B.S.

Water balance of peat soils in the spring. Pochvovedenie no.10: 73-82 O '63. (MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii imeni A.N.Kostyakova.

MASLOV, B.S., kand.tekhn.nauk

Drainage and irrigation rates for lowland bogs. Gidr. i mel. 14 no.1: 31-38 Ja '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii im. Kostyukova.
(Drainage) (Irrigation) (Swamps)

MASLOV, B.S., kand. tekhn. nauk

Drainage systems in the floodlands of the Yakhroma River and some problems in the construction of subsurface drainage. Gidr. i mel. 15 no.11:46-50 N '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i inzhenernoy geologii.

MASLOV, B.S.

Determining the water exchange between peat soils and ground waters using lysimeters. Pochvovedenie no.1:82-84 Ja '65.
(MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii imeni A.N. Kostyakova.

L 10518-66 EWT(1)/EWT(m)/EEC(k)-2/EWP(j)/EWA(m)-2/EWA(h)/EWA(1) IJP(c)

ACC NR: AP5027177 WW/GG/AT/RM SOURCE CODE: UR/0076/65/039/010/2510/2514

AUTHOR: Sanayev, B.; Yanova, K. G.; Sharpatyy, V. A.; Ibragimov, A. P.; Margolin, D. M.; Maslov, B. V.

ORG: Moscow Physicochemical Institute im. L. Ya. Karpov (Moskovskiy fiziko-khimicheskiy institut)

TITLE: Radiochemical properties of certain peptides

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 10, 1965, 2510-2514

TOPIC TAGS: glycine, valine, leucine, electron radiation, radiation effect, free radical, electron paramagnetic resonance, irradiation resistance, electron spin resonance, radiation spectrum, radiation chemistry

ABSTRACT: The aim of the study was to determine the radiation resistance of certain simple peptides and the nature of the radical products formed in them during radiolysis. The polycrystalline peptides glycylglycine, glycylvaline, and glycylleucine were irradiated with 1.7—1.8 MEV electrons, and electron spin resonance (ESR) spectra were recorded during the irradiation with an EPR-2IKhF spectrometer at temperatures from 128 to 295K. The radiation resistance was found to be independent of the irradiation temperature and decreases in the order glycylglycine > glycylvaline > glycylleucine. Analysis of the ESR spectra showed that irradiation of low-molecular peptides at low temperatures causes radicals to be formed from the amino acid residues present in the molecules of the peptide. Radical products can form during radiolysis of dry polycrystalline samples both as a result of rupture of the bonds in the

Card 1/2 UDC: 541.12.01

L 10518-66

ACC NR: AP5027177

molecule which has absorbed the radiation energy and as a result of interaction of primary activated products, for example, H and NH_2, with peptide molecules. The results are compared with the spectra obtained during radiolysis of aqueous solutions of glycylglycine, glycylvaline, and glycylleucine at -150C. Orig. art. has: 3 figures and 1 table.

SUB CODE: 07, 20 / SUBM DATE: 23Jun64 / ORIG REF: 004 /

Card 2/2

SANAYEV, B.; YANOVA, K.G.; SHARPATYY, V.A.; IBRAGIMOV, A.P.; MARGOLIN, D.M.; MASLOV, B.K.

Radiochemical properties of some peptides. Zhur.fiz.khim. 39 no.10:2510-2514 O '65. (MIRA 18:12)

1. Moskovskiy fiziko-khimicheskiy institut imeni Karpova.
Submitted June 23, 1964.

MASLOV, D.G.; DANILIN, D.A.

Using a sandblast apparatus to drill holes in granite. Mats. i izobr. predl. v stroi. no.105:17-18 '54. (MLRA 8:10)
(Drilling and boring)

MASLOV, D.P.; SABOV, V.V.; NIZHANSKIY, P.G.; DEM'YANYUK, F.S., professor, ~~retsenzent~~; LUR'YE, G.B., professor, redaktor.

[Technology of automobile and tractor construction] Tekhnologiia avtotraktorostroeniia. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1953. 628 p. (MLRA 7:6)
(Automobiles--Design and construction) (Tractors--Design and construction)

МАСЛОВ Д.Ф.

TKACHENKO, V.I.

"Technology of automobile and tractor construction," D.P.Maslov, V.V.Sasov, P.G.Nizhanskii. Reviewed by V.I.Tkachenko. Avt. i trakt. prom. no.10:32-32 O '54. (MLRA 7:10)

1. Altayskiy traktornyy zavod.
(Automobiles--Design and construction) (Maslov, D.P.) (Sasov, V.V.) (Nizhanskii, P.G.)

MASLOV, Dmitriy Petrovich; DANILEVSKIY, Vladimir Viktorovich; SASOV, Vladimir Viktorovich; IVANOV, A.S., professor, retsenzent; GOLOBLIN, A.N., dotsent, retsenzent; AZAMOV, A.S., kandidat tekhnicheskikh nauk, dotsent, redaktor; GOFMAN, M.K., redaktor izdatel'stva; POL'SKAYA, R.G., tekhnicheskiy redaktor.

[Techology of machine manufacture] Tekhnologiia mashinostroeniia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1956. 424 p. (MLRA 10:5)

(Machinery industry) (Machine tools)

12(2) PHASE I BOOK EXPLOITATION SOV/1513

Maslov, Dmitriy Petrovich, Vladimir Viktorovich Sasov, and Pavel Grigor'yevich Nizhanskiy

Tekhnologiya avtomotostroyeniya (Technology of Building Automobile Motors) 2nd ed. Moscow, Mashgiz, 1958. 694 p. 15,000 copies printed.

Reviewer: A.A. Anders, Engineer; Ed.: B.V. Smirnov, Engineer; Ed. of Publishing House: L.I. Yegorkina; Tech. Ed.: A.Ya. Tikhanov; Managing Ed. for Literature on Automotive, Transport, and Agricultural Machine Building: I.M. Bauman, Engineer.

PURPOSE: This book is approved by the Department of Secondary Schools of the Ministry of Higher Education of the USSR as a textbook for students of machine-building tekhnikums.

COVERAGE: The book describes fundamental machining operations, methods of machining characteristic parts of automobiles and motorcycles, and also problems connected with planning machine shops in automobile plants. The book describes machine tool attachments and gives basic information on attachment design and adaptation to automobile

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and motorcycle production. In the compilation of machining data, highly productive and progressive technological processes, characteristic of serial mass-production of parts, were taken into consideration. As a basis of the text, the authors used their tekhnologiya avtotraktorostroyeniye (Technology of Automobile Tractor Construction) published in 1953. Special attention is given to the development of mechanization and automation of production processes and to new achievements in the field of technological processes in the USSR and abroad. Docent L.P. Maslov, Candidate of Technical Sciences was responsible for Parts I,II, and III; Docent V.V. Sasov, Candidate of Technical Sciences for Part IV (with the exception of Chapter XXIX); Docent P.G. Nizhanskiy was responsible for Part V and Chapter XXIX. The bibliography consists of 19 references, all Soviet.

TABLE OF CONTENTS:

MASLOV, Dmitriy Petrovich; IGNAT'YEV, Aleksey Kirillovich; PINSKER, A.L., inzh., red.; FAL'KO, O.S., red. izd-va; CHERNOVA, Z.I., tekhn. red.

[Technology of the manufacture of the basic parts of tractor engines] Tekhnologiia izgotovleniia osnovnykh detalei traktornykh dvigatelei. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1961. 311 p. (MIRA 14:11)

(Tractors--Engines)

MASLOV, D.P., kand. tekhn. nauk, dots.; GURIN, F.V., kand. tekhn. nauk, dots.; KUZNETSOV, A.M., insh.; VASIL'YEV, A.M., insh.; LYKOV, A.G., insh., retsenzent; PINSKER, A.L., insh., red.; LESNICHENKO, I.I., red.; MODEL', B.I., tekhn. red.

[Technology in the motor-vehicle and tractor industry]Tekhnologiia avtotraktorostroeniia.[By]D.P.Maslov i dr. Moskva, Mashgiz, 1962. 432 p. (MIRA 16:2)
(Motor vehicles--Design and construction)
(Tractors--Design and construction)

BRYUKHOVETS, Dmitriy Fedotovich; VASIL'YEV, A.M., kand. tekhn. nauk, retsenzent; MASLOV, D.P., nauchn. red.; SMIRNITSKAYA, O.M., red.

[Assembling and testing motor vehicles, tractors and motorcycles] Sborka i ispytaniia avtomobilei, traktorov i mototsiklov. Moskva, Vysshaia partiinaia shkola, 1965. 361 p. (MIRA 18:9)

MASLOV, F.

YUGOSLAVIA / Analytical Chemistry. Analysis of Inorganic Substances. E

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 67287.

Author : Zivanovic D., Maslov F.
Inst : Not given.
Title : Determination of Tungsten in Ores.

Orig Pub: Tehn. pregl., 1956, 8, No 4, 84-86.

Abstract: A procedure for the determination of W in ores by a gravimetrical method is described. A comparison of results obtained by gravimetrical and photometrical methods on one of the Yugoslavian ores is given. 0.5-5.0 gr samples and heated in 100 cc of concentrated HCl on a sand bath until the total

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YUGOSLAVIA / Analytical Chemistry. Analysis of Inorganic Substances. E

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 67287.

Abstract: volume of solutoin is reduced to approximately 40 cc, followed by the addition of 10cc of concentrated HNO_3, reduction of the volume by approximately 5cc, addition of approximately 200cc of water, 10 cc of cinchonine (I) (125 gr I in HCl, 1:1); the solution is then kept for 2 hours in a warm place and filtered. The precipitate is washed with a dilute solution of I, dissolved in 15cc of NH_4OH (1:2), allowed to stand for 10 minutes, and filtered. The resulting filtrate is heated (to remove excess NH_3), diluted to 200cc with boiling water, followed by the addition of 3cc of concentrated HCl and 10cc of I solution, and kept for 2 hours warm. The precipitate, removed by filtration, is washed with the dilute solution of I, dried,

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MASLOV, G.A., klinicheskiy ordinator

Arterial blood transfusion in lung resection under narcosis.,
Uch. zap. GMI no.8:40-45 '59. (MIRA 14:9)

1. Iz kafedry gospital'noy khirurgii (zav. kafedroy - prof. B.A. Korolev).
(BLOOD--TRANSFUSION) (LUNGS--SURGERY)

MASLOV, G. A.

ON THE RESULTS OF A CONFERENCE ON WELDING IN THE AIRCRAFT INDUSTRY. G. A. Maslov. (Avtogennoe Delo, 1948, No. 2, pp. 32-33). (In Russian). A summary is given of the proceedings of a conference on welding held in December, 1947, at which the following were among the aspects discussed: Strength of welded joins and the control of their microstructure: heat distribution during welding: welding of heat-treated materials: argon-arc weldings: technical properties of electrodes: welding of heat-resisting steels: butt-welding in serial processes: quality control of weld: welding machines: control of electrical parameters in welding: brazing of aircraft materials. Both electric and gas welding were considered, and mention is made of new methods.

Immediate source clipping

MASLOV, G.A., inzhener.

Moscow conference on the results of scientific research work and production in the field of welding. Vest.mash. 33 no.7:103-105 Jl '53. (MLRA 6:8)
(Welding)

MASLOV, G.A., inzhener

Innovators in welding. Svar. proizv. no.2:11-14 F '55.
(Welding) (MLRA 8:9)

MASLOV, G.A., inzhener

Conference of welders in Moscow. Svar. proizv. no.3:30 Mr '55.
(Moscow--Welding--Congresses) (MLRA 8:9)

MASLOV, G.A., inzhener

Progressive welding practices; results of the Moscow conference of welders. Svar. proizv. no.5:27-30 My '55. (MLRA 8:9)
(Moscow--Welding--Congresses)

MASLOV, G.A., inzhener

Efficiency promoters of the welding industry in fight for technical progress. Izobr. v SSSR 1 no.6:35-36 D '56. (MLRA 10:4)
(Welding)

MASLOV, G. A.

LYUBAVSKIY, K.V., doktor tekhnicheskikh nauk, professor; MASLOV, G.A., dotsent.

Work of the Welding Section in the Scientific and Technical Department of the Machinery Industry in 1956. Svar.proizv. no.6:27-28 Je '57. (MIRA 10:7)

1. Predsedatel' sektsii svarki metallov pri TSentral'nom pravlenii Nauchno-tekhnicheskogo otdela Mashprom (for Lyubavskiy).
2. Uchenyy sekretar' sektsii (for Maslov).
(Machinery--Welding)

Маслов, Г.А.

SUBJECT: USSR/Welding 135-8-2/19

AUTHORS: D'yachenko, V.V., Candidate of Technical Sciences, and Maslov, G.A., Lecturer

TITLE: Technological Peculiarities of Welding the Aluminum-Magnesium Alloy "AMr-6T" (Tekhnologicheskiye osobennosti svarki aluminiye-vomagniyevogo splava "AMr-6T".)

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, #8, pp 3-6 (USSR).

ABSTRACT: The Research Institute for Technology and Work-Organization has completed experimental work on arc-welding in argon and resistance welding of the new alloy "AMr-6T". This alloy belongs to a class of deformable aluminum alloys which cannot be hardened by heat treatment. Basically it contains the elements of known Al-Mg alloys, with titanium as an additional element. The ultimate strength of "AMr-6T" is 32 kg/mm^2 at normal temperature, the relative elongation - 15%. It is corrosion-resistant under atmospheric conditions, in a 3 %-solution of common salt with 0.1 % of hydrogen peroxide, in kerosene and in gasoline.

The proper technology is given in detail, with recommendations concerning the etching prior to welding, the size of welded

Card 1/2

TITLE: Technological Peculiarities of Welding the Aluminum-Magnesium Alloy "AMr-6T" (Tekhnologicheskiye osobennosti svarki aluminiye-vomagniyevogo splava "AMr-6T").

seams and gaps, arc amperage and voltage, electrode diameters, types of welding machines and fixtures. With this technology cracks are avoided in the weld metal as well as in the base metal near the welded seam.
Sheets of "AMr-6T" can be very satisfactorily welded by the argon-arc, spot, or roller-electrode method. Their resistance in static tensile tests at 20-400°C is not less than 90% of that of the base metal.

Chief Engineer of the research institute P.A. Troshin submitted technological recommendations for subject experiments. Engineers N.A. Novosel'tsev, I.K. Kostin, I.A. Gedovius, P.P. Volodin, A.S. Shavlovskiy took part in the work.
The article contains 6 tables, 3 diagrams, and 3 photographs.

ASSOCIATION: "NIAT", "OKB"
PRESENTED BY:
SUBMITTED:
AVAILABLE: At the Library of Congress.
Card 2/2

TITLE: Technological Peculiarities of Welding the Aluminum-Magnesium Alloy "AMr-6T" (Tekhnologicheskiye osobennosti svarki aluminiye-vomagniyevogo splava "AMr-6T").

seams and gaps, arc amperage and voltage, electrode diameters, types of welding machines and fixtures. With this technology cracks are avoided in the weld metal as well as in the base metal near the welded seam.
Sheets of "AMr-6T" can be very satisfactorily welded by the argon-arc, spot, or roller-electrode method. Their resistance in static tensile tests at 20-400°C is not less than 90% of that of the base metal.

Chief Engineer of the research institute P.A. Troshin submitted technological recommendations for subject experiments. Engineers N.A. Novosel'tsev, I.K. Kostin, I.A. Gedovius, P.P. Volodin, A.S. Shavlovskiy took part in the work.
The article contains 6 tables, 3 diagrams, and 3 photographs.

ASSOCIATION: "NIAT", "OKB"
PRESENTED BY:
SUBMITTED:
AVAILABLE: At the Library of Congress.
Card 2/2

MASLOV, G.A.

SUBJECT: USSR/Welding

135-8-17/19

AUTHOR: Maslov, G.A., Lecturer

TITLE: The Moskva Oblast Conference of Welders on Results of Scientific and Industrial Work in 1956. (Moskovskaya oblastnaya konferentsiya svarshchikov po itogam nauchnykh i proizvodstvennykh rabot za 1956 god).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, #8, pp 40-41

ABSTRACT: The conference, at which 365 delegates participated, took place from 8th to 10th April 1957 in Moskva.
The 51 reports read at the conference contained information on research work performed by various industrial and research organizations on: application of shielding gases in welding magnesium, various steels, and various grades of titanium; electric slag welding of massive parts; special contact welding and hard soldering.

ASSOCIATION: Not stated.
PRESENTED BY:
SUBMITTED:
AVAILABLE: At the Library of Congress.
Card 1/1

MASLOV, G.A., inzhener.

Two years' work of metal welding departments. Mashinostroitel' no.8:45-47 Ag '57. (MLRA 10:8)

(Welding)

MASLOV, G.A.

AUTHOR: Kondratovich, V.M., Engineer 135-58-6-6/19

TITLE: All-Union Conference on Prospects and Trends of the Development of Electric Welding Equipment in the USSR from 1959-1965 (Vsesoyuznoye soveshchaniye po perspektivam i napravleniyu razvitiya elektrosvarochnogo oborudovaniya v SSSR na 1959-1965 gg)

PERIODICAL: Svarochnoye Proizvodstvo, 1958, Nr 6, pp 13-17 (USSR)

ABSTRACT: The conference was organized by VNIIESO, and convened from 3 to 5 February 1958 in Leningrad. N.Ya. Kochanovskiy (VNIIESO) made a report (published separately in this copy of periodical, pp 1-7) on the planned development of the production of welding equipment in 1959-1965. P.M. Sevbo of the Institut elektrosvarki imeni Ye.O. Patona (Welding Institute imeni Paton) reported on the work of his institute, pointing out that it is capable to satisfy only 10% of requirements of the industry. The institute is now operating a small plant in Kiyev and will be able to double its production. The Kiyev Sovnarkhoz has decided to have one more plant specialize in welding equipment, and to build one plant near Kiyev for the production of special heavy equipment for electric slag, arc and contact welding. Candidate of Technic-

Card 1/6

All-Union Conference on Prospects and Trends of the Development of Electric Welding Equipment in the USSR from 1959-1965

al Sciences, S.M. Katler, (VNIIESO), made a report on the tasks of producing arc welding equipment and described the work accomplished by VNIIESO. He mentioned a new installation for argon-arc welding aluminum alloys with a non-fusing electrode, "UDAR-300", designed jointly by the VNIIESO and the laboratory headed by L.A. Mordvintsev (Engineers Lemarin'ye and Belyy participated in this work), production of which is under way at the plant "Elektrik". Engineer A.D. Shapiro told of the development of the Vil'nyusskiy zavod elektrosvarochnogo oborudovaniya (Vil'nyus Electric Welding Equipment Plant) which is now one of the main manufacturers of such equipment in the country. The plant's planned production of welding transformers is indicated in table 1. The following persons participated in the discussions: G.A. Maslov, (NIAT) ("Outlook of Electric Welding Development in Aviation Industry"); Engineer K.V. Vasil'yev (VNIIAvtogen) (this report is printed separately in this copy of periodical, pp 12-13); Professor A.S. Gel'man (TsNIITMASh) ("The Needs of the Heavy Machine

All-Union Conference on Prospects and Trends of the Development of Electric Welding Equipment in the USSR from 1959-1965

Building Industry for Welding Equipment"); Engineer A.N. Davydov; Engineer A.I. Gulyayev of the Gor'kovskiy avtomobil' nyy zavod (Gor'kiy Automobile Plant) (see article in this copy, pp 10-12); Engineer M.R. Shrayerman ("Welding Equipment Development Problems in Shipbuilding"); Engineer L.Ye. Yershov of the Avtozavod imeni Likhacheva (Automobile Plant imeni Likhachev) - who pointed out that during the next 2-3 years the plant will need 20-25 multiple-electrode machines for from 5-6 production lines for components of the automobile "ZIL-130"; Engineer Timofeyev (AzINMASh); Candidate of Technical Sciences N.L. Kaganov (MVTU imeni Bauman); Engineer V.M. Korsunov of the Taganrogskiy zavod "Krasnyy kotel'shchik" (Taganrog plant "Krasnyy Kotel'shchik"); Engineer A.P. Galaktionov of the Ural'skiy politekhnicheskiy institut (Urals Polytechnical Institute); Engineer I.M. Stroyman (VNIIESO) - on the institute's work on equipment for cold welding and friction welding; Candidate of Technical Sciences N.F. Kazakov of the Moskovskiy tekhnologicheskiy institut molochnoy i myasnoy promyshlennosti (Moscow Technologic Institute

All-Union Conference on Prospects and Trends of the Development of Electric Welding Equipment in the USSR from 1959-1965

of Meat and Milk Industry); Candidate of Technical Sciences S.S. Levi (NIIOMS)- who indicated that the requirements in special equipment for welding the iron of concrete reinforcements are met by only 20%; Professor N.O. Okerblom of the Leningradskoye otdeleniye NTO Mashproma (Leningrad Branch of NTO Mashprom) - on the work and suggestions made by a specially organized team (brigada); Professor A. A. Alekseyev of Leningradskiy Politekhnicheskiy institut (Leningrad Polytechnic Institute) - who pointed out that at the time being the supply of welding equipment lags far behind the requirements, and that practical use of contact welding methods are not yet fully determined and, as a consequence, the production of contact welding machines is low; Candidate of Technical Sciences I.Ya. Rabinovich of the TsNILelektrom AS USSR. The poor quality of electrodes and cables produced by the plant "Elektrik" was mentioned by several participants of conference. The poor quality of ignitrons was illustrated by the fact, that at the Gor'kiy Automobile Plant, 80% of ignitrons have to be replaced annually. The conference made the following re-

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All-Union Conference on Prospects and Trends of the Development of Electric Welding Equipment in the USSR from 1959-1965

commendations. The annual production of electric welding equipment must be increased by at least 4 times by 1965 and contact welding equipment production must constitute at least 50% of the entire production volume. Production of special electric welding equipment for different industries must be increased immediately. Special attention must be given to the quality of the equipment. The Gosplan SSSR and the Gosplan RSFSR will be asked to permit construction of a laboratory building for VNIIESO and to increase the VNIIESO personnel. A general catalogue of electric welding equipment produced in USSR will be published by TsBTI of the electric engineering industry. The MVTU imeni Bauman and the Leningrad and Kiyev Polytechnical Institutes are to include a course for welding specialists; VNIIESO and Welding Institute imeni Paton will hold regular courses for specialists of welding. The plant "Elektrik" will be made the leading plant in the production of new equipment, and will start immediately the series production of automatic and

All-Union Conference on Prospects and Trends of the Development of Electric Welding Equipment in the USSR from 1959-1965

semi-automatic welding equipment. Reconstruction of the Plant "Iskra" and the construction of the Vil'nyus Electric Equipment Plant has to completed. The Kaliningrad plant must be reconstructed for production of contact welding machines of over 100 kva, as well as a plant in the Kiyev rayon for the production of electric slag welding installations, surfacing machines and other automatic machines. The Rzhevskiy and Ramenskiy plants (Rzhev and Ramenskoye plants) must be reconstructed and specialize in the production of welding transformers, automatic and semi-automatic inert-gas-shielded arc welding machines and auxiliary equipment. Centralized production of high-resistant alloy electrodes for contact welding machines must be organized. In the machine tool building industry, one of the plants must be made the base for producing equipment for friction welding and cold welding (pressure welding)

AVAILABLE: Library of Congress
Card 6/6

25 (1) SOV/135-59-4-15/18

AUTHOR: Maslov, G. A., Docent, Scientific Secretary of the Welding Section

TITLE: A Summary of Work Done by the Welding Sections of NTO MAShPROM in 1958 (Itogi raboty sektsiy svarki NTO MAShPROM za 1958 g)

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 4, pp 42 - 44 (USSR)

ABSTRACT: Conferences organized by the central (TsP) and the 21 existing oblast' Welding Sections of NTO MAShPROM are listed, starting with 3 All-Union conferences held in 1958. The Sections activities included the organization of conferences, courses (seminars), excursions to plants within the USSR and reports of members after journeys abroad, lectures and competitions. Annual sessions on scientific and practical welding work have become traditional with the Moscow and Leningrad Sections. Contacts with foreign welding organizations have been extended, and the TsP was represented at the Vienna congress of the International Welding Institute by Professors K. V. Lyubavskiy and

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A Summary of Work Done by the Welding Sections of NTO MAShPROM in 1958

N. O. Okerblom. It has been accepted as member of the Institute and is preparing for the next international congress, at which there will be a competition for the best work on repair welding. Candidate of Technical Sciences G. D. Nikiforov (Moscow), Engineer V. G. Radchenko (Barnaul) and Candidate of Technical Sciences I. R. Patskevich (Chelyabinsk), took part in the conference in Hungary, where G. D. Nikiforov read a report "Automatic Arc Welding Aluminum Alloys", and V. G. Radchenko "Electric Slag Welding in Building Boilers". Professor K. V. Lyubavskiy and Engineer Ye. P. L'vova were at the conference in Czechoslovakia. The following salient facts are also mentioned: 1) The Rostov Section directed work on the use of natural gas for welding and the method is being employed at the plants "Rostsel'mash", "Krasnyy Aksay", "Prodmash", "Neftemash", "Krasnyy Kotel'shchik" and others; 2) the Rostov Sovnarkhoz started construction of an electrode factory at Krasnyy Sulin on the recommendation of the Rostov Section; 3) there is a competition in progress for the best work on development and practical introduction of advanced welding

A Summary of Work Done by the Welding Sections of NTO MAShPROM in 1958

technique, with 116 NTO members participating and 29 projects submitted (the results will be published in the following issue, Nr 5, of this periodical). The TsP has been designated to coordinate work in the field of welding in the country and addressed all NTOs on this matter. The first result was an All-Union conference on the prospective development of welding, organized by the Gosplan of the USSR, VNIIESO, GNTK and NTO MAShPROM.

ASSOCIATION: TsP NTO MAShPROM.

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18(5,7) SOV/135-59-8-7/24

AUTHORS: Maslov, G.A., and Zolotarev, B.B., Engineers

TITLE: Strength of Electro-Heat Treated Spot Joint From Steels of Types 30 KhGSA, 12G2A and EI659

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 8, pp 21-26 (USSR)

ABSTRACT: In spot welding of most structural steels which contain more than 0.2% of carbon it is possible, that highly strained structures with uneven weight are formed if the cooling is too rapid. This causes brittleness of the joints, which reduces their durability and plasticity. The steels are hardened; they have a high stability and are heat-treated. The hardness of the zone of heat treatment, hardened in the spot welding, adds to the formation of strong inner strains. This zone is surrounding the center of the spot and forms an area of hard cast which disturbes the volume changes during the cooling. This may cause cracks (most frequently if the steel is stronger than 2 mm), blisters, and pores. If the cooling of the weld spot is rapid the spatial changes caused by the transformation of

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Strength of Electro-Heat Treated Spot Joints From Steels of Types 30 KhGSA, 12G2A and EI659

the martensite also lead to strains within the welded joints, which may reduce the durability of the welding. The spot joint is then not reliable because overstrain or accidental shocks may cause a fracture. It is known that the mechanical qualities of the joints in spot welding of chilled steels may be improved by a heat treatment immediately between the electrodes of the spot welder. The article contains the results of an investigation of the working data and efficiency of the electro-heat treatment of the weldings of the three chilled steels. The investigation is based on studies of the statical and cyclical durability of the joints. The mechanical tests were conducted by the technician M.V. Odinokova and the metallographic tests by engineer P.G. Galushkina. In the following part the test data and test conditions for the three types of steel are given. The statical durability of the spots during the cutting depends little on the character of the electro-heat treatment, a fact

Strength of Electro-Heat Treated Spot Joints From Steels of Types 30 KhGSA, 12G2A and EI659

which is confirmed by the experiment. The characteristics of the statical stability of the spot joints made of the three steel sorts with differing thickness are given in table 2-5. Experiments were carried out to determine the interrelation between the stability of the joints and the thermal treatment of the periphery of the spot and its seam, because these zones of the joint carry the greatest strain and are therefore especially important for the durability of the whole joint. The values which are given in table 6 prove that the selected data of welding with electro-heat treatment assure a high stability of the joints in statical tests. The results of the cyclical tests permit the following conclusions: a joint of hardened steel has a higher cyclical stability than a joint of non-hardened steel. The relation between the fatigue limits of non-hardened steel and its joint is 2.1. For hardened steel this relation is equal to 2.4. The relation between the destructive statical

strain and the fatigue limit is 2.2 for joints of non-hardened steel and 2.9 for the same joints of hardened steel. The relative weakness of joints of hardened steel may be explained by the following facts: the durability is determined not only by the strength of the cast core, but also by the structure of the cores which are formed around the spot during the welding. Since the plasticity of the hardened type is lower than that of a non-hardened one, the irregularity of its mechanical qualities cause a heavy concentration of the strains, which in turn leads to a deterioration of the statical and cyclical durability. It was found by experiments, that an electro-heat treatment reduces the hardness in the periphery of the core and in the seam zone. On the other hand a reduction in the hardness causes a relatively small increase in the plasticity in these zones. At the same time the heat treatment increases the durability of the spot, especially in regard to a tearing-off. On

Strength of Electro-Heat Treated Spot Joints From Steels of Types 30 KhGSA, 12G2A and EI 659

this basis the authors assert that the electro-heat treatment reduces not only the hardness but at the same time to a certain extent the residual stresses. All this in the final analysis helps to improve the stability of the joint. The authors come to the conclusions: spot welding with subsequent heat treatment in the welder assures a sufficient mechanical stability of the welded joints of the three mentioned types of steel during cutting and tearing under statical and cyclical strain. The electro-heat treatment in the welding machine makes it unnecessary to give the spot joint a subsequent heat treatment in a furnace. As it seems the heat treatment not only reduces the brittleness in the spot center and the zone influenced by the heat, but also considerably lowers the residual stresses, since the large increase in the resistance to tearing is not matched by the relatively small decrease in hardness (up to 15%).

SOV/135-59-8-7/24

Strength of Electro-Heat Treated Spot Joints From Steels of Types 30 KhGSA, 12G2A and EI 659

There are 3 photographs, 2 diagrams, 5 graphs and 3 Soviet references.

ASSOCIATION: NIAT

Card 6/6

MASLOV, G.A.

Welding operators promote technical development. Mashinostroitel' no.11:42-43 N '59. (MIRA 13:3)

1.Uchenyy sekretar' sektsii svarki metallov TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva Mashproma.
(Welding--Technological innovations)

S/135/59/000/012/004/006
A115/A029

AUTHORS: Maslov, G.A., and Zolotarev, B.B., Engineers

TITLE: Use of Higher Pressure at Electrodes for Spot Welding of Low Alloyed Steels

PERIODICAL: Svarochnoye proizvodstvo, 1959, No. 12, pp. 16 - 18

TEXT: Irrespective of the current intensity and the duration of impulse, a pressure of 270 - 320 kg per 1 mm thickness is not sufficient to avoid defects such as pores, blisters and cracks in the core and in the neighborhood of the seam. Even application of two-impulse operation does not produce fine-grained weldings. To investigate the possibility of better weldings, the low alloyed steels 30ХГСА (30KhGSA) and 12Г2А (12G2A) have been tested. The pressure at the electrodes was raised. The X-ray diffraction (Figure 1) shows improvement of the welds by gradually increased pressure from 240 kg to 1,440 kg at 1 mm thickness. The optimum values of pressure can be easily found for each thickness of various materials. The small projections on the spherical surface of the electrode, appearing during the process of welding, favorably affect the solidity of the welded spot; therefore, it is advisable to do 20-25 trial spots before proper

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S/135/59/000/012/004/006
A115/A029

Use of Higher Pressure at Electrodes for Spot Welding of Low Alloyed Steels

welding. Higher pressures applied to spot welding of low-alloyed steels improve the quality of weldings through elimination of inner defects in the core, raising the solidity and stability, favoring crystallization of the core and preserving the resistance of the electrodes. There are 4 figures and 1 table.

ASSOCIATION: NIAT (Scientific Research Institute of Technology and Production Management)

Card 2/2

MASLOV, G.A., inzh.

Communist Youth League is the patron of the welding industry.
Svar.proizv. no.8:48 Ag '60. (MIRA 13:7)

1. Uchenyy sekretar' sektsii svarki metallov TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva Mashproma.
(Communist Youth League) (Welding)

21391
Z/046/61/000/001/002/002
D007/D102

1.2300 1573

AUTHOR: Maslov, G.A., Docent

TITLE: Spot welding of low- and medium-alloyed steels with electrothermal treatment of the weld between the electrodes of the welding machine. (Spot welding of high-strength steels)

PERIODICAL: Zváračský sborník, no. 1, 1961, 21-33

TEXT: Spot welding of carbon steels sensitive to air-quenching is accompanied by the formation of brittle, hardened structures in the weld nugget and the heat affected zone, requiring subsequent heat treatment of welded parts in furnaces. To eliminate this separate operation, use of the so-called two-impulse welding method was suggested in which the second impulse serves to electrothermally temper the spot-welded joint directly between the electrodes of the welding machine. This paper presents the results of the investigation of such a welding cycle, especially regarding the influence of the welding-regime parameters, and of the electrothermal impulse,

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Spot welding...

on the various properties of the welded joint and on the temperature of the weld nugget and the heat affected zone. Since the tensile strength is the lowest of all strength indices of a spot-welded joint of hardenable steel, it was chosen as the basic criterion for evaluating the quality of the weld. Optimum regimes of spot welding and electrothermal treatment were determined for low- and medium-alloyed steels (30KhGSA, 12G2A, EI659) with thicknesses of 0.8 - 3 mm. The tests were performed on a MTP 200/1200 program-controlled welding machine, a product of the Elektrik Plant. Welding tests with 30KhGSA steel were performed with 0.8, 1.5 and 3.0 mm thick specimens both in annealed state (σ_{Pt} = 60 kg/mm^2) and hardened (σ_{Pt} = 110 - 120 kg/mm^2). Measurements of the heat affected zone hardness under varying welding conditions (impulse durations 0.02 - 1 sec; currents 5,000 - 11,000 A; pressures 240 - 720 kg) showed that the hardness varied $\pm$ 5% within the range of 510 - 560 H_V. Cracks, cavities and pores could be observed in macrosections of welds performed at electrode pressures below 500 kg, but no defects were found in welds of 1.5 + 1.5 mm thick specimens at pressures above 500 kg. Welds were made using both the single-impulse and the

Spot welding...

two-impulse method. Generally, the tests confirmed the necessity and advantages of electrothermal treatment of the welds by the 2nd impulse. The tensile strength of a 1.5 + 1.5 mm thick specimen increased 35 - 40%. In a 0.8 + 0.8 mm thick specimen, the shearing strength of 465 - 615 kg and the tensile strength of 70 - 115 kg, attained by single-impulse welding, increased to 540 and 160 kg, respectively, when two-impulse welding was used. The following optimum parameters for the two-impulse spot welding were determined: Current of the first (welding) impulse I_1 = 9,200 A; duration of the first impulse t_1 = 0.62 sec; current of the second (tempering) impulse I_2 = 6,200 A; duration of the second impulse t_2 = 0.88 sec; interval between the two impulses t = 1.16 sec; pressure on the electrodes P = 720 kg. Under these conditions, the following weld-strength values of quenched 30KhGSA steel specimens were obtained:

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D007/D102

Spot welding...

No. of specimen	Thickness of welded material in mm	shearing strength in kg	tensile strength in kg
1	0.8 + 0.8	605	160
2	1.5 + 1.5	1,520	395
3	3.5 + 3.5	3,020	1,160

The fatigue strength of the parent metal and the tack-welds were tested under cyclic stress (5.10^6 cycles) on 1.5 mm thick specimens, annealed and quenched, with the following results: (1) Tack-welded specimens of quenched steel have lower fatigue strength than specimens of annealed steel; (2) The ratio of fatigue limit of the parent metal to the tack-welded specimens has a value of 1.45 for annealed and 2.4 for quenched steel; (3) The ratio of static strength to fatigue strength of tack-welded specimens has a value of 2.2 for annealed and 2.9 for quenched steel. Greater weakening of quenched steel is attributable to the inevitable structural weakening around the tack-welded spot; lower plasticity of the quenched steel; and greater stress concentrations due to the uneven distribution of

mechanical properties in the parent material. To compare the plastic properties in the weld nugget with those of the heat-affected zone, tests with torsional stress were performed with 1.5 + 1.5 mm thick specimens of 30KhGSA steel. Spot welds produced with the single-impulse method (I_1 = 6,200 A; t_1 = 1.06 sec; P = 430 kg) had an ultimate torsion strength of 3.5 kgm (torsion angle 5°), and welds made with the same method but at higher currents [Abstracter's note: Higher current values not given], had an ultimate torsion strength of 5 kgm at a torsion angle of 8°. Spot welds made with the two-impulse method under optimum conditions failed at a torsional moment of 9.4 kgm and a torsion angle of 17°. These results prove that the electrothermal treatment between electrodes of the welding apparatus improves the plastic properties of spot weldings. Metallographic investigations were made to determine internal flaws, stresses, primary crystallization and chemical composition of the weld nugget and the heat-affected zone. It was found that the two-impulse method had only small influence on the hardness of the weld nugget. The hardness of the heat-affected zone ranged between 450 and 480 H_v. Primary structures were identical in all cases. Coarse

Spot welding...

dendrite was found in the center of nugget, while finer dendrite was found at the nugget periphery. It was determined, therefore, that the electrothermal treatment between welding electrodes produces a rather high plasticity of the weld at places of peak stresses. The advantage of this second impulse lies not so much in the decreased hardness of the heat-affected zone as in an increase of the tensile strength due to relieving of stresses induced by the welding process. Comparative tests showed that heat treatment of welds in a furnace does not increase the weld strength in respect to any stress whatsoever. The strength of welds of other steel types sensitive to air-quenching can also be increased by a suitable two-impulse welding method. This was confirmed by welding tests with normalized 12G2A Mn-alloyed construction steel. Static strength of spot welds produced by the single and two-impulse method respectively, are listed in Table 2:

Spot welding...

Test No.	Thickness of welded material in mm	Strength in kg after single-impulse welding		after two-impulse welding	
		shearing	tensile	shearing	tensile
1	1.0 + 1.0	750	110	750	275
2	2.0 + 2.0	1,975	285	2,320	745

The spot-weld nugget produced under optimum conditions has a sorbitic structure with heterogenous dendrite in the cast metal. In the heat-affected zone, the sorbitic structure changes into a troosto-sorbitic one. The hardness of the nugget and the heat-affected zone is considerably decreased by the electrothermal treatment. A similar increase of strength due to electrothermal treatment was observed also in welding tests with EI699 medium-alloyed steel, belonging to the group of martensitis steels. Static strengths achieved by two-impulse welding of EI659 steel with various previous heat treatment are listed in Table 3:

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Spot welding...

Test No.	Thickness of welded material in mm	State before welding	Strength in kg shearing	Strength in kg tensile
1	1.0 + 0.1	annealed, σ_{Pt} = 60 kg/mm^2	902	330
2	1.75+1.75	annealed, σ_{Pt} = 60 kg/mm^2	1,455	1,455
3	1.0 + 1.0	normalized, σ_{Pt} =115 kg/mm^2	1,184	354
4	2.0 + 2.0	normalized, σ_{Pt} =115 kg/mm^2	2,340	2,390

In conclusion the author summarizes the advantages of electrothermal treatment of spot welds between the electrodes as follows: (1) The weld strength is considerably increased and the tensile strength increases by as much as 35 - 50%; (2) Subsequent heat treatment can be eliminated; (3) The brittleness in the weld nugget and the heat-affected zone is reduced and internal stresses relieved. (4) By increasing the electrode pressure, the quality, strength, and stability of the spot weld are increased and simultaneously a favorable

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Spot welding...

influence is exerted on the crystallization process in the weld nugget without affecting the service life of the electrodes. There are 7 figures, 3 tables and 5 Soviet-bloc references.

ASSOCIATION: TsNIITMASH, Moscow

Card 9/9

X

S/135/61/000/004/012/012
A006/A101

AUTHOR: Maslov, G. A., Engineer

TITLE: 10th International Welding Congress in Czechoslovakia

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 4, pp. 43 - 44

TEXT: The 10th International Welding Congress was convened from September 13 - 15, 1960 in Czechoslovakia by the Czechoslovakian Academy of Sciences, the Bratislava Research Institute of Welding and the Scientific-Technical Society. The Congress, was attended by Soviet delegates: engineer G. A. Maslov of MVMI, heading the delegation, candidate of technical sciences N. Ya. Kochanovskiy, VNII ESO, candidate of technical sciences I. I. Zaruba, Institute of Electric Welding imeni Ye. O. Paton, and engineer N. M. Goncharenko, "Krasnyy kotel'shchik" Plant. The Conference heard 19 reports: G. A. Maslov on "Spot Welding of High-Strength Steels"; I. I. Zaruba on "Welding in Carbon Dioxide of Thin-Sheet Steel" N. Ya. Kochanovskiy on "Equipment of resistance and arc welding, developed by VNIIESO"; Academician I. Chabelka, (Czechoslovakia) on weldability of thick steels; doctor, engineer V. Khummich, FRG, on the welding of fine-grained steels (σ_B = 50 - 75 kg/mm^2, σ_T = 36 ÷ 40 kg/mm^2) heat resistant and special structural steel (σ_T = √

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63 kg/mm^2, σ_B = 73 kg/mm^2) at 30 - 110 mm thickness; F. Shikh, engineer (Czechoslovakia) on "Methods of Developing High-Strength Steels for Welded Structures"; engineer I. Fukhs (Czechoslovakia) on the use of high strength steels for welded structures and equipment; engineer S. Khorvat (Czechoslovakia) and engineers P Dan'e (Danier) and P-de-Konnik (Belgium) on the use of new welding materials; engineer A. Missikevich (GDR), on automatic submerged arc welding of 1Kh18N9T steel using alloying by means of the wire or the flux; engineer G. Gerden (GDR) on automatic submerged building-up of high-alloy materials on non-alloyed ones; engineer E. Krechmar (GDR) on results of investigating metallurgical processes during automatic submerged building-up in argon atmosphere of austenitic steel on non-alloyed metal; engineer R. Probst (GDR) on "Welding and Building-up in Carbon Dioxide of Austenite Steels with Ferrite-Perlite Steels"; engineer R. Korkievich, representing the Glivitse Welding Institute (Poland) on the "AC-9 (AS-9) Automatic Machine for Electric Slag Welding" demonstrated in a film; engineer V. Miklosh (Rumania) on equipment for the programmed control of flash process in resistance welding; candidate of technical sciences V. Gregor, and doctor, engineer A. Tesar (Czechoslovakia) on the strength of weld joints; professor B. B. Zorkotsi (Hungary) on "Weldability of Al-Ti System Alloys" and engineer I. K. Guber (Austria) on "Welding of Steel Structures of Machines". The dele-

gates visited scientific institutes and plants, attended the 2. International Industrial Fair in Brno and the Conference of the members of the welding section at the Praha branch of the Scientific-Technical Society.

1.2300

21096
S/135/61/000/005/011/011
A006/A101

AUTHOR: G. A. Maslov, Engineer

TITLE: News on welding techniques in Czechoslovakia

PERIODICAL: Svarochnoye proizvodstvo, no. 5, 1961, 43 - 48

TEXT: Information is given on resistance-welding equipment developed at the Bratislava Research Institute of Welding. An experimental model for spot and butt welding in a vacuum of highly active metals is now being developed. The machine consists of a glass container and a vacuum pump attaining a 10^{-6} Hg vacuum. Evacuation time is 4-5 minutes. The device is mounted on a 300 kvamp projection welding press. Tests are being made on welding ball bearing races made of strip. The Institute developed polychlorvinyl hoses of 20 mm diameter to be mounted on semi-automatic machines for welding in shielding gas (Fig. 12). The hose is flexible, light and handy. The problem of connecting the hose to the torch has as yet not been solved and changes in the hose rigidity depending on temperature have not been established. A steel spiral is mounted into the central aperture of the hose when welding with a steel wire, and a teflon tube when welding with aluminum wire. The teflon tube assures satisfactory sliding of the cold hardened aluminum wire at a hose length of over 2.5 meters and is sufficient-

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ly stable during operation. A device for the electroslag remelting of metal chips is shown in figure 13. The chips are supplied by a worm mechanism to the molten metal, where they melt and crystallize. Oxygen-free flux is employed. The diameter of the ingots produced is 250 mm; the remelting current is 4,000 amp, voltage 40 v. About 1,000 kg of chips are remelted within 8 h. Cutting with a plasma jet is performed using a special torch with a 15 mm carbon electrode (Fig. 14). The electrode has a thin metallic tip to excite the arc. Water is used for the arc compression instead of gas; it simultaneously cools the electrode. The arc is power supplied from two P-500 welding generators connected in series. The use of water vapor instead of gas is considered to be less expensive. the method can be applied for the cutting of stainless steel, aluminum, copper and ordinary steel. Maximum thickness of stainless steel to be cut is 25 mm. It is performed on 300 amp current, 150 - 160 v arc voltage, 35 mm arc length; 1.0 mm cut width; 0.5 m/min cutting speed. Maximum thickness of aluminum to be cut is 35 mm, current - 160 amp, voltage - 200 v, cutting speed 0.6 m/min. Experiments are being made to constrict the arc with the aid of a magnetic flux. Welding of aluminum on a flux layer is being studied and flux of the following composition is suggested: 40% KCl, 20% Na_3AlF_6, 40% NaCl. The SAK-800 machine was developed for scalding large diameter tie pieces and sleeves using the photo-duplicating method; a special

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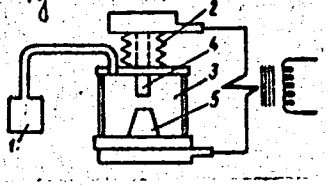
apparatus was designed for hose-less gas feed where welding stationary butts of u up to 200 mm diameter pipes in carbon dioxide. Besides the enumerated machines the Institute is occupied with investigating the welding technology and designing automatic machines with program control for short seam welding of automobile wheel rims; developing high speed spot welding machines with up to 500 spots/ minute efficiency; testing machines for hot upseting of metal heated by the resistance method, and developing equipment for vibro-arc hardfacing of shafts.

There are 4 figures.

Figure 11:

Fig. 11



Schematic drawing of a vacuum resistance welding machine; 1 - vacuum pump; 2 - bellow seal; 3 - chamber; 4 - upper electrode; 5 - lower electrode.

Figure 12: Section of polychlorvinyl hose for semi-automatic welding in gas shield 1, 2, 3, 4 - apertures for the cable, the shielding gas, the welding wire and the control conductor, respectively.

Fig. 12

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Figure 13: Schematic drawing for electroslag remelting of chips; 1 - worm feed of chips; 2 - crystallizer

Fig. 13

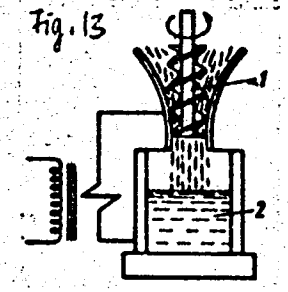
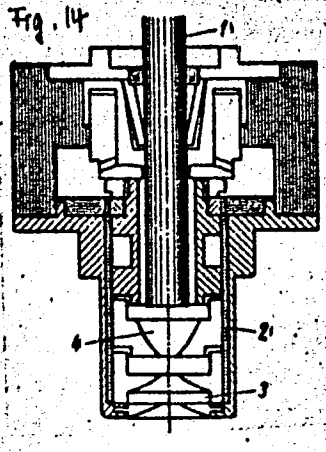


Figure 14:

Schematic drawing of a torch for plasma arc cutting; 1 - carbon electrode; 2 - compressing water jacket; 3 - nozzle; 4 - cathode flame

Fig. 14



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MASLOV, G.A., doc.

Spot welding of low and medium alloy steels with electrothermal finishing of welds between the electrodes of the welding machine. Zvar sbor 10 no.1:21-33 '61.

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya, Moskva.

MASLOV, G.A.

In the welding section of the Central Administration of the Scientific Technological Society for the Machinery Industry. Svar. proizv. no.8:43-44 Ag '61. (MIRA 14:8)

1. Uchenyy sekretar' sektsii svarki TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva mashinostroitel'noy promyshlennosti.
(Welding)

MASLOV, G.A., dots.

Scientific Technological Society of Machinery Industry is fighting for progress in welding practices. Svar. proizv. no.10:45-46 O '61. (MIRA 14:9)

1. Uchenyy sekretar' sektsii svarki TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva mashinostroitel'noy promyshlennosti.

(Welding)

MASLOV, G.A., dotsent

Repairing of cast-iron parts by welding. Bum. prom. 36 no. 8:24-26 Ag '61. (MIRA 14:8)

(Cast iron—Welding)